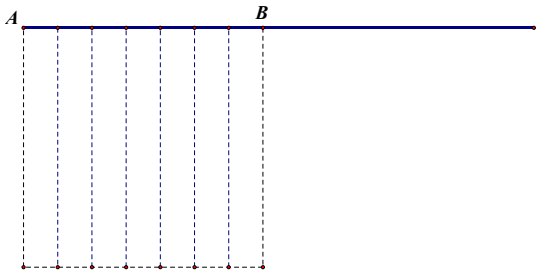
Multiplying and Dividing Lines Arithmetically

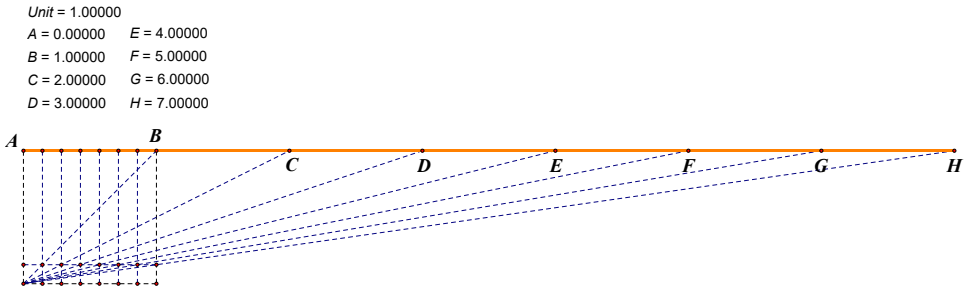
Thursday, July 13, 2023

Although Heath's notes and commentary on Book 2 of the elements is really nice, it does indicate that the author's Heath noted and Heath, himself, were missing the boat on the demonstration about parallels in Book 1. Book 2 was just a further examination of what was given in Book 1. So, let me show what they missed.

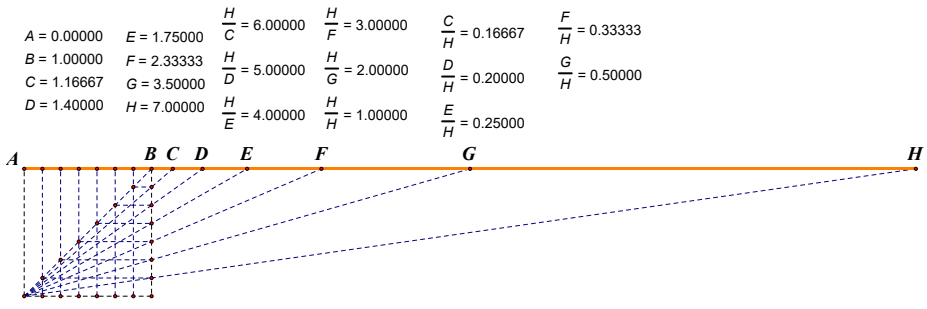
Let us first make a template with the goal in mind to examine the number 7. What we are going to do, is then take a unit line, and divide it into seven equal parts. Kind of a chess board, missing the game.



Now, how are we going to multiply one by every number up to 7?



That was easy. Now, If I have seven, how do I divide it proportionally?



That was easy too.

Children made games call dots to play using parallelograms, and here we have the so-called genius's of geometry and mathematics, fumbling around making these propositions in Euclid? All of them based on a parallelogram and they could not figure out how to do proportion, multiplication, division arithmetically with a square? Incredible. Hell, they even made a chess board out

of it. How is it that children can play dots, checkers and chess, but not use the very same board to learn basic arithmetic? Even those children that grew up and wrote lame propositions in Euclid?

One can draw the square matrix, and do propositions gnomon-wise, that is in the box, or one can do it outside the box, and one can add them together and discover that one is the reciprocal of the other.

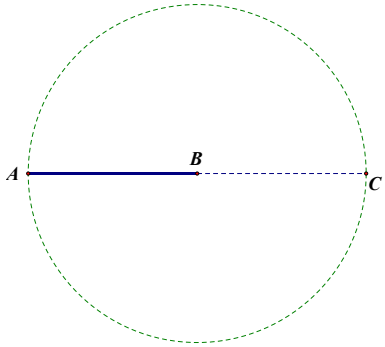
Geometry is, like every grammar, a study in the recursion of the unit.

What this means is that given any A and B, that we have a choice to make. What is the first thing I am going to do with it.

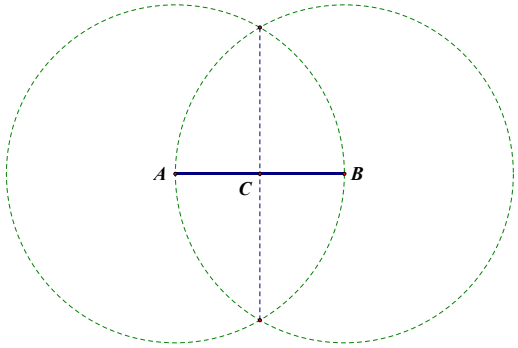
I can add a point C at random between A and B.

I can extend A and B to any random C.

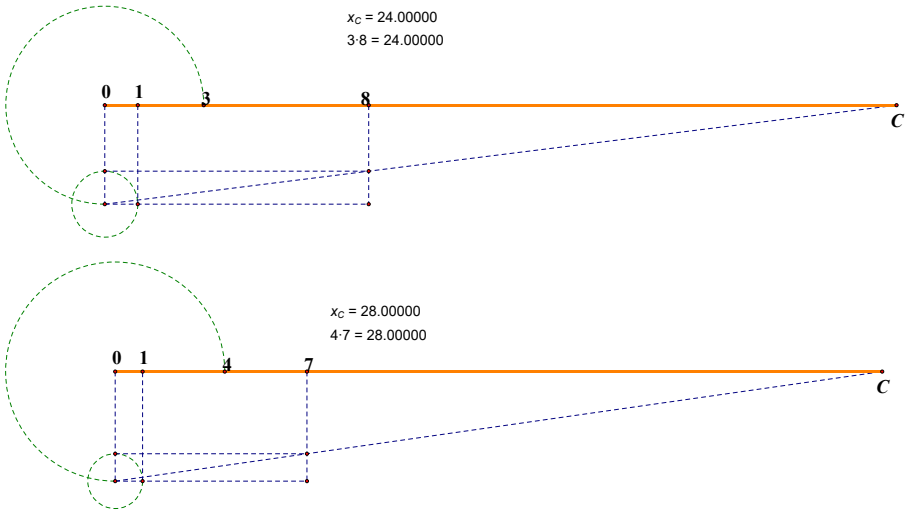
I can extend A and B to any C fixed by A and B.



I can divide A and B to any C fixed by A and B.



These provide us our four choices to start the Elements. But not one of them results in a random conclusion. The operations upon the segment and any point we add to our A and B, by what every choices we make, are fixed by our original binary unit. It is up to us to learn these operations and apply them to all of our choices that may be called random, but the results are always fixed, arithmetically or geometrically.



Therefore, we note our four choices, and divide the whole book accordingly, and when we do so, we clearly state the branch and for each proposition, defer to any other branch from which we might be drawing from, or so I would imagine.